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January 25, 1994

William F. Caton, Acting Secretary
Federal Communications Commission
1919 M Street, NW - 2nd Floor
Washington, DC 20554

Re: Cable Equipment Compatibility
ET Docket No. 93-7

Dear Mr. Caton:

On behalf of Greater Media, Inc. we submit herewith an original plus nine copies of its comments in the referenced proceeding.

Very truly yours,

Joseph R. Reifer

Enclosures

cc: Richard Kirsche (w/enc.)

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
	)	
Implementation of Section 17	)	
of the Cable Television	)	ET Docket No. 93-7
Consumer Protection and	)	
Competition Act of 1992	)	
	)	
Compatibility Between	)	
Cable Systems and Consumer	)	
Electronics Equipment	)	

To: The Commission

COMMENTS OF GREATER MEDIA, INC. IN RESPONSE TO NOTICE OF PROPOSED RULEMAKING

I. INTRODUCTION

Greater Media, Inc. ("Greater Media") hereby submits its comments in response to the Notice of Proposed Rulemaking, FCC 93-495, released December 1, 1993, in the captioned proceeding. Greater Media ranks in the largest 40 cable television MSO's having in excess of 220,000 subscribers. Greater Media submitted comments in this proceeding previously and continues to be involved in the formulation of compatibility standards. We offer these comments on the basis of our experience with certain of the issues raised herein and with discussions with members of the various task groups. These comments were prepared

primarily by Richard N. Kirsche, Vice President of Engineering for the Cable Television Group of Greater Media, Inc. Mr. Kirsche's curriculum vitae is attached as Appendix A.

II. COMMENTS

Summary. Greater Media is in general agreement with the Commission's aims in the notice. Consumer equipment should interface with cable television service so that the subscriber can receive cable television service as conveniently as off air broadcast service. This is especially important, at this time, because cable service is supplied to more than 60 percent of the homes in the United States. We feel the two level approach to resolving compatibility problems is a good one. The Commission's actions will resolve most of the compatibility problems with the wide variety of consumer equipment now in service and will move forward to establish truly "cable-ready" consumer equipment. We also wish to express general support of the inter-industry filing of the Cable/Consumer Electronics Compatibility Advisory Group and the EIA/NCTA Joint Engineering Committee.

Proposals for Existing Equipment. We agree with the Commission's premise that an assortment of devices, by-pass switches, timer-remote controls, and multiple decoders will solve most of the compatibility problems for existing television sets and VCRs. However, the recovery of costs for this equipment is an important issue. The number of cable subscribers requiring this type of equipment is in question. From the popularity of humorous remarks about VCR's blinking twelve o'clock, it is clear that the majority of the American public is not technically adept. Subscribers who may require the kinds of special equipment discussed

here are probably in the minority. Even if for a minority of subscribers, the compatibility issue is important but the costs of providing a solution to the compatibility problems should be borne by those who benefit from the solution. It should also be remembered that it will not be possible to solve all problems or please every subscriber.

Because decoding converters control access to the cable operator's product, dual decode or second converters should remain available from the cable operator. Since some vendors do not manufacture a "dual-decode" product at this time, the Commission's rules should delay implementation for a period until these devices can be designed and manufactured. It is likely that some converters, still in service, will not have available dual decode models. In those instances the operator should be able to supply two converters to solve the problem. Because theft of service and signals is a pressing problem in our industry, we feel the decoding converter must remain under the control of the cable operator.

Items such as by-pass switches and timer remotes should be made available for sale by the cable operator. The subscriber should also be able to obtain these devices from sources other than the cable operator if they so desire. The VCR-Plus remote control device, universal remote controls, and RF switches are already available in the marketplace. It is impossible to anticipate all of the various combinations of devices that subscribers and entrepreneurs may devise. The competitive marketplace and advertising should be allowed to operate in this area.

Scrambling of Basic Signals. As the Commission observed in its notice, most cable systems do not scramble their basic tier of signals. However, in those cases where operators do scramble the basic signals, they do so for good reason and at substantial capital expense. The rules should recognize the fact that there are situations which require scrambling of the basic tier to protect an operator's business. Theft of service is a major problem to the cable industry. In some cable systems (cities like Baltimore and Philadelphia, for example) tens of thousands of homes have the cable plant affixed to the sides of houses, in many cases within easy reach of the homeowner. The cable operator should be free to scramble whatever signals they need to in order to protect their business. Scrambling of signals on the basic tier should neither be required nor prohibited, but left to the discretion of the cable operator.

Disabling of Remote Control Devices. The cable operator should be allowed to disable the ability of a converter to respond to a remote control device for two reasons. The first reason, stated in the NPRM, is where the subscriber requests it. The second reason involves the use of a second converter to enhance VCR functionality. In many cases, the operator does not have dual decode converter boxes available often because they are not available from the manufacturer or because the converter models employed by the operator are no longer in production. In those cases, two converter boxes are operating at the same location and the remote control capability of one of the converters must be disabled to avoid conflicts between the tuning of the boxes.

Education, Subscriber Supplied Remotes. In our annual informational mailing, we can inform subscribers that they may acquire and use their own remote control equipment. Under the Commission's rate rules, the subscriber will save a small amount of money each month by supplying his own equipment. However, the principal advantage for the subscriber in providing his own remote control equipment is the convenience of controlling several pieces of equipment, one of them being the converter, with a single device. In this situation, the converter becomes only one part of an entertainment system that the subscriber is interfacing with the remote.

We do not feel it is practical to attempt to describe every after market remote control device that may interface with a subscriber's converter. Attempting to identify and list every local outlet for these devices is a nearly impossible task, at least in a large, metropolitan area. Universal remote control devices are sold in a wide range of outlets. They can be found in convenience stores, service stations, discount stores, and electronic retailers, just to name a few. They are also available nationwide via catalog and mail order.

By requiring an operator to identify every device and retail outlet the Commission is placing a heavy burden on the operator. It will require a significant time and staff to accomplish this. The operator is also exposed to potential legal action by a dissatisfied subscriber who purchased a product endorsed by the operator that fails to work properly with the subscriber owned equipment, or by a store that may lose business because it was missed and not included on the list of sources. The operator's responsibility in this area should be to

clearly identify the make and model of the converter that the subscriber is using. It would then be up to the competitive marketplace to inform the subscriber which TV set, VCR, and converter the remote control device is intended to communicate with. The cable operator should not be held responsible for the marketing of products that are not under its control.

We have studied aftermarket remote control devices for some time. We find that many "universal" remotes will work to control most of the features of a converter but may fall short of controlling all of the features of a television set, VCR, or cable converter. Some devices perform all of the required functions but they do not do the job as well as the original equipment. Hard to depress keys and low output power from their IR transmitter are not uncommon. The quality of construction also varies widely. In some instances, the subscriber's VCR or TV may not be included in the feature set of the control device.

The Commission's proposed rules do not address the issues involved when the cable operator must make a change of converter equipment. From time to time operators change out converters because of severe security breaches or problems associated with age and obsolete equipment. These decisions are not made lightly by the operator and tremendous cost is involved. When this occurs, some subscribers may also be left with remotes that are no longer functional. The operator's responsibility in these cases should not extend beyond the need to caution subscribers that these situations may arise from time to time.

Cable Ready Consumer Equipment. We agree with the Commission's intention to concentrate on crafting a future solution to the consumer interface problem. A properly designed interface can improve the performance of the subscriber's television set and enhance satisfaction with cable television service. Because the television set and the decoder are part of a system, overall costs to the operator and subscriber are driven down. It is also critically important that the definition of a "cable-ready" set be precise enough to prevent subscribers from being sold equipment that may tune cable channels but be incapable of delivering "cable-ready" performance.

Adopting the updated EIA-542 channelization plan will provide a frequency plan that can act as a standard for television set and cable system frequency plans. This plan divides the cable spectrum into 6 MHz channels. These channel increments define standard NTSC television channels and probably will suffice for a channelization plan for HDTV. The Commission's rules should recognize the cable operator's need to subdivide this channel plan to deliver compressed, digital television signals. Groups of channels can be "packaged" into 6 MHz increments, or multiples of 6 MHz, to fit within the EIA-542 channel plan but the definition of a single channel of digitized programming or programming not intended for direct reception, may occupy other than 6 MHz of bandwidth.

The need for improvements in tuner shielding and performance is critical to the success of a cable ready television set. The tuner of a cable ready set must be adequately shielded to avoid interference from strong over the air signal fields. These tuners should also

be designed to avoid overload from the strong signal levels delivered by a cable system and be able to discriminate between adjacent channels of varying levels. Because cable systems are becoming two-way, it is also important to avoid radiation of signals from the television set tuner in the cable return transmission band. The Commission should extend its conducted emissions frequency range to cover the 5 MHz to 42 MHz return transmission band. Because the object of the Decoder Interface port is to permit the subscriber's set to connect directly to the cable system, there is no longer a converter in line to "filter" emanations from the television set. This makes performance in the return band critically important.

CableLabs recently published information on tuner performance. These studies should guide the Commission in setting tuner performance standards. They represent scholarly work on the long-standing problem by a respected industry consultant and a testing laboratory with a long history of accurate, quality work.

A Decoder Interface connector is necessary on a cable ready television set. Without this connector, the cable operator will find it difficult and expensive to protect and control programming. We urge the Commission to adopt the updated standard, EIA IS-105 now under development by the C^3AG. The EIA/ANSI-563 standard does not interface with all converter systems currently deployed by cable operators. The Zenith PM series of converters, for example, cannot operate with a baseband decoder interface. Furthermore, the EIA-563 standard is not a good interface for digitally transmitted signals. If the operator is delivering digital signals, a converter would be required that could, at best, use the EIA-563 as a

baseband "monitor" input. The Commission should make every effort to adopt the new standard that is under development by the C^3AG.

Signal delivery requirements. Requiring cable operators to support the Decoder Interface port by 1996 could place a significant financial burden on some operators if the Commission adopts the EIA/ANSI-563 interface, rather than the updated interface being developed by the JEC and C^3AG. Some scrambling systems and compression systems cannot be economically supported by the old EIA-563 port. The requirement for all cable systems to support the decoder interface should be linked to the adoption of the updated Decoder Interface that can support all existing scrambling systems..

Charges for Decoder Interface Equipment. We feel that rules governing charges for equipment placed on the subscriber's premises should be consistent. It appears the Commission is attempting to support the Decoder Interface with strong economic incentives. While this approach may help drive the new interface devices into the market, it does so at a cost to the subscribers who do not, or cannot, purchase new receiving equipment. Placing the cost of these devices into the general cable network places the cost for this device on everyone's service bill. Those who do not have the device, are "taxed" to subsidize those who do. If a subscriber has many newer TV sets and VCRs, that subscriber's subsidy will be greater than one who only has a new VCR. It seems that the subscriber with the financial resources to purchase new equipment will benefit at the expense of those who cannot afford or choose not to purchase new sets and VCRs, and the subscriber with a very low level of

service will be called upon to support the subscriber with a large number of connected devices.

It is quite likely that the Decoder Interface decoder device will be less expensive than the converters that are now in service or would be offered as an option to the interface decoder. These devices do not have tuners. They also avoid the expense of remodulating signals that are decoded at baseband. This should make these devices less expensive to the subscriber. It is our impression that the underlying reason for these rules is the determination by Congress, that the subscriber was strongly dissatisfied with the set top decoder. If this is the case, this dissatisfaction should provide the incentive that is needed to drive subscriber acceptance of the interface.

The Commission's rules would only permit recovery of general cable network costs under a "cost-of-service" showing. But the COSS rules are not even in their final form and the interface decoders will impose a substantial cost on the operator. For example, we currently have 220,000 subscribers. If the device cost even as little as $50.00 per subscriber, it would represent an $11,000,000 capital requirement, and that is before taking second sets and VCRs into account. Digital decoders could cost as much as $200.00. There must be some mechanism to recover this cost other than requiring a COSS proceeding. Unless the cost of these devices is allowed as an external pass through, the Commission will be forcing all operators to come under the cost of service rules - - a result we doubt the Commission desires.

Adoption of EIA-542. The rules propose compliance by cable operators with the EIA-542 channel plan after one year for new or rebuilt cable systems, and ten years for all systems. This proposal is basically sound. We are concerned, however, that the one year requirement for rebuilt systems may expose some subscribers to direct pickup problems by older TV sets or VCR's that do not have the shielding proposed for new consumer and cable equipment. Traditionally, cable operators have improved the perceived performance of their cable systems by "channel mapping" to avoid placing important signals on channels exposed to very strong off air fields. A waiver mechanism for systems that have compelling technical reasons to delay the adoption of EIA-542 should be adopted.

Greater Media also feels that this channel plan should only apply to signals intended to be received and displayed by "cable-ready" subscriber equipment. With the growth of new cable services, including data communications, signals not intended for direct reception will become common on cable systems. The frequency allocations and bandwidth of these services should be left to the cable operator. Digital transmission, compressed signals, and non-standard video transmissions can be transmitted on channels that are not part of the EIA-542 band plan. As we discussed above, the frequency plan for the delivery of cable television can be divided into a regular channel increments, but some non-standard delivery systems may occupy a portion of a channel or be multiplexed to deliver multiple programs in 6 MHz channel increments. In these cases the channel designator system should be adjusted, not the band plan. These signals can co-exist with the delivery of normal programming so

that the subscriber's cable ready set will function properly and tune to all standard EIA-542 channels.

It is also likely that many of the digital delivery systems will be supported by a "navigator" or "guide" system so that the subscriber will be selecting programs by content, not channel. The updated Decoder Interface would handle the job of tuning the set and decoding the program material. In this case, there would be no conflict with channel designator numbers.

Digital Standards. The Commission must weigh the benefits of setting early standards for digital transmission with risks of selecting a standard at the time when a new technology is emerging and changing rapidly. It must also be careful not to stifle progress and delay the introduction of digital transmission technology. The Commission should set standards, but the time to lock into any specific standard may be a few years away. If one looks at the progress that is being made in computer technology today, one can see how fast this field is changing. When the United States standardizes on a technology, it should be one that can match any in the world. In this way our industry has chance to create jobs by exporting technology and technology products.

III. CONCLUSION

The Commission's policy should let the marketplace work with various standards that can operate with the Decoder Interface. This will get our manufacturers into production of

the technology and test standards in a competitive marketplace. A standard, or possibly two, should emerge within a few years. At this time the Commission, working with industry groups, should select a standard. We believe selection of this industry standard must be a cooperative effort between industry groups and the Commission. This standard will permit the incorporation of much of the decoding technology into the television receiving equipment, drive costs down and ensure compatibility with all sets.

Respectfully submitted,

Richard N. Kirsche (JR)

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January 25, 1994

Appendix A

STATEMENT OF RICHARD N. KIRSCHE
Vice President of Engineering, Cable Television
Greater Media, Inc.

My name is Richard N. Kirsche. I am presently Vice President of Engineering for the Cable Television Group of Greater Media, Inc. I have twenty-one years of experience in the cable television industry. For 7 years, prior to my work in cable television, I was chief Engineer of Townsend Associates Inc. and the RF Systems Department of Ampex Corporation. This work involved the design, production, and installation of equipment for the television broadcast industry. I hold a Bachelor of Science in Electrical Engineering from Lehigh University. I am a member of the Society of Cable Television Engineers and The Institute of Electrical and Electronic Engineers. My statement is given in my capacity as supervisor of cable television technical operations at Greater Media, Inc., which provides cable television service to more than 220,000 subscribers.